

# Road Services Division 2015 Collision Data Report



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## INTRODUCTION

The King County Department of Transportation (KCDOT) is pleased to present the 2015 Collision Data Report. This report is prepared by the Road and Traffic Engineering unit of the Engineering Services section of the King County Road Services Division.

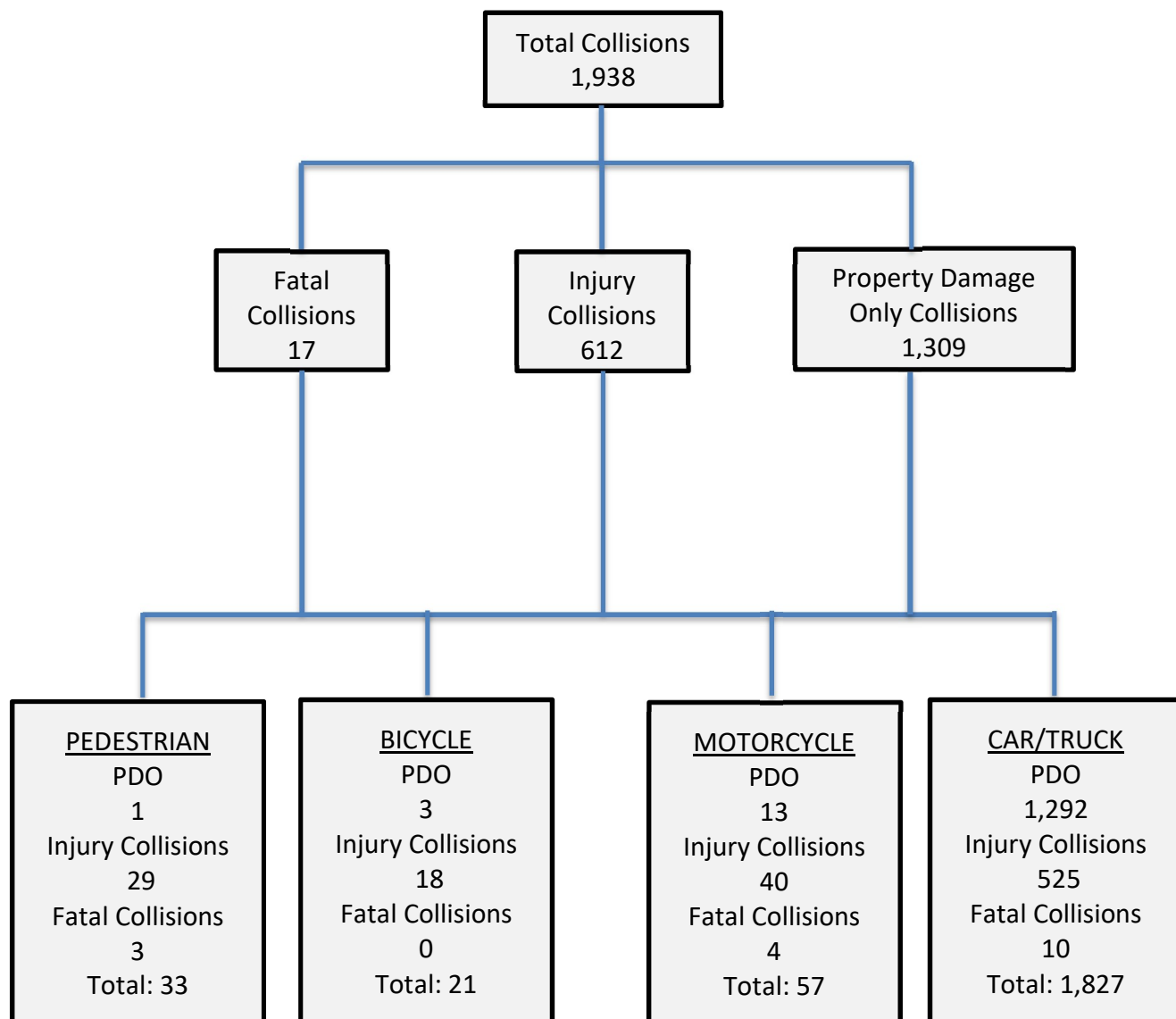
This report was prepared to provide collision and safety information to elected officials, King County staff and the public.

The collision information provided in this report comes from the Washington State Department of Transportation (WSDOT) Collision Location Access Software (CLAS) database as of May, 2016. This report covers only those collisions that occurred on a county-maintained roadway within unincorporated King County and meet the reporting threshold of \$1,000 in property damage or result in an injury or fatality.

Other information used in this report is courtesy of the State of Washington's Office of Financial Management, the County Road Administration Board (CRAB), the Washington State Department of Transportation, the King County Executive's Office, the Road Services Division's Engineering Services Section and Strategic Business and Operations Section.

## 1.0 EXECUTIVE SUMMARY

During 2015, a total of 1,938 collisions were reported on King County maintained roadways. This included 17 fatal, 612 injury, and 1,309 property damage collisions. The total economic cost of these collisions is estimated at \$94.7 million.



## 1.1 Six Year Trends

Since 2010, population, maintained road miles, and annual million miles traveled continue to decline. King County's unincorporated population fell from 284,100 to 253,280 (11 percent), while the number of maintained roadway miles dropped by 10 percent (from 1,632 to 1,468). The number of collisions however, increased by 11 percent from 1,739 to 1,938. This crash activity increase correlates to the economic and population boom that is occurring within the Seattle Metropolitan region, which includes Snohomish, King, and Pierce counties. According to Washington State's Office of Financial Management, the Seattle Metropolitan area has added an estimated 200,700 new residents since 2010. This population growth is reflected in the larger number of crashes and the daily congestion which is experienced across the region.

While the number of total collisions has increased, the proportion of severity has stayed the same. In 2014 and 2015, fatal collisions made up less than one percent of the total, injury collisions were 32 percent and property damage only collisions amounted to 67 percent of the total.

Almost 70 percent of the 2015 collisions were either fixed object (30%), rear-end (23%) or entering an intersection at an angle (17%). Over 55 percent of the fixed object crashes involved hitting a roadway ditch, utility pole, tree, or fence. There were a total of seven fatalities involving fixed objects comprising 41 percent of all fatalities.

Pedestrian and bicycle collisions made up less than three percent of all collisions. There were 21 crashes involving bicyclists, up by five from 2014 and 33 total pedestrian involved crashes, down from 37 in 2014.

The percentage of crashes involving drivers driving under the influence (DUI) declined by one percent in 2015, after a small rise since 2009. During 2015, there were a total of 139 DUI involved collisions (7%) compared to 173 (10%) during 2010. Of the 139 collisions, four were fatal, 63 incurred injuries, and 72 were no injury or property damage only.

Table 1.1.1  
Number of Collisions  
By Severity

Year	PDO*	Percentage	Injury	Percentage	Fatal	Percentage	Total
2010	1,131	65.1%	600	34.5%	8	0.5%	1,739
2011	954	63.5%	540	36.0%	8	0.5%	1,502
2012	1,016	64.6%	544	34.6%	12	0.8%	1,572
2013	1,118	66.0%	564	33.3%	11	0.6%	1,693
2014	1,182	67.1%	566	32.1%	11	0.6%	1,759
2015	1,309	67.5%	612	31.6%	17	0.9%	1,938

\*Property Damage Only

## 1.2 Collision Rates and Road Miles

Table 1.2.1  
Road Miles By  
Federal Functional Classification (FFC)

Federal Functional Class (FFC) Description	FFC	Road Miles	Annual Average Daily Traffic Volume (AADT)	Annual Million Vehicle Miles Traveled (VMT)
Rural Minor Arterial	6	41	4,500	67
Rural Major Collector	7	98	2,100	75
Rural Minor Collector	8	105	1,100	42
Rural Local Access	9	388	600	85
Urban Principal Arterial	14	37	14,800	200
Urban Minor Arterial	16	72	8,700	229
Urban Collector	17	76	3,200	89
Urban Minor Collector	18	20	2,200	16
Urban Local Access	19	631	800	184
<b>Total</b>		<b>1,468</b>		<b>987</b>
<b>Overall Weighted Average</b>			<b>1,842</b>	

Note: Average Annual Daily Traffic Volumes were derived using a three year sampling of traffic count data (2013-2015) and averaging the daily totals.

**Table 1.2.2**  
**Collision Rate per Million Vehicle Miles Traveled**

Year	Total Collision Reports	Annual Average Daily Traffic Volumes (AADT)	Maintained Road Miles	Annual Million Miles Driven	Collision Rate
2010	1,739	2,377	1,632	1,416	1.23
2011	1,502	1,798	1,531	1,005	1.49
2012	1,572	2,022	1,504	1,110	1.42
2013	1,693	1,764	1,492	961	1.76
2014	1,759	1,792	1,493	977	1.80
2015	1,938	1,842	1,468	987	1.96

Note: The collision rates shown in this table have been adjusted to reflect the traffic counts collected in the years shown. Previous versions of this report used Annual Average Daily Traffic Volumes (AADT) which were higher than appropriate for certain roadways.

**Table 1.2.3**  
**Collision Rate per 100,000 Population**

		All Collision Types		Pedestrian		Bicycle	
Year	Population	# of Collisions	Collisions per 100,000 Population	# of Collisions	Collisions per 100,000 Population	# of Collisions	Collisions per 100,000 Population
2010	284,100	1,739	612.11	28	9.86	24	8.45
2011	253,565	1,502	592.35	27	10.65	29	11.44
2012	255,700	1,572	614.78	30	11.73	21	8.21
2013	253,100	1,693	668.91	23	9.09	23	9.09
2014	252,050	1,759	697.87	37	14.68	16	6.35
2015	253,280	1,938	765.16	33	13.02	21	8.29

## 2.0 COLLISION TRENDS

### 2.1 Fatality Rates and Fatal Collision Rates

Table 2.1.1  
Fatality Rate per 100,000 Population

		All Collision Types		Pedestrian		Bicycle	
Year	Population	# of Fatalities	Fatalities per 100,000 population	# of Fatalities	Fatalities per 100,000 population	# of Fatalities	Fatalities per 100,000 population
2010	284,100	8	2.82	1	0.35	1	0.35
2011	253,565	8	3.16	1	0.39	0	0.00
2012	255,700	12	4.69	1	0.39	1	0.39
2013	253,100	12	4.74	1	0.40	1	0.40
2014	252,050	12	4.76	3	1.19	0	0.00
2015	253,280	19	7.50	3	1.18	0	0.00

Table 2.1.2  
Fatal Collision Rate per 100,000 Population

		All Collision Types		Pedestrian		Bicycle	
Year	Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population
2010	284,100	8	2.82	1	0.35	1	0.35
2011	253,565	8	3.16	1	0.39	0	0.00
2012	255,700	12	4.69	1	0.39	1	0.39
2013	253,100	11	4.35	1	0.40	1	0.40
2014	252,050	11	4.36	3	1.19	0	0.00
2015	253,280	17	6.71	3	1.18	0	0.00

Table 2.1.3  
Fatality Rate per  
100 Million Vehicle Miles Traveled

Year	Number of Fatalities	Maintained Road Miles	Annual 100 Million Miles Traveled	Fatality Rate per 100 Million Miles Traveled
2010	8	1,632	14.16	0.56
2011	8	1,531	10.05	0.80
2012	12	1,504	11.10	1.08
2013	12	1,492	9.61	1.25
2014	12	1,493	9.77	1.23
2015	19	1,468	9.87	1.93

Table 2.1.4  
Fatal Collision Rate per  
100 Million Vehicle Miles Traveled

Year	Number of Fatal Collisions	Maintained Road Miles	Annual 100 Million Miles Traveled	Fatal Collision Rate per 100 Million Miles Traveled
2010	8	1,632	14.16	0.56
2011	8	1,531	10.05	0.80
2012	12	1,504	11.10	1.08
2013	11	1,492	9.61	1.14
2014	11	1,493	9.77	1.13
2015	17	1,468	9.87	1.72

## 2.2 US, State, and Unincorporated King County Collision, Fatal Collision and Fatality Rates

Table 2.2.1  
US, State, and Unincorporated King County Collision Rates per 100,000 Population

	Unincorporated King County			Washington State			United States		
Year	Population	Collisions	Collisions per 100,000 Population	Population	Collisions	Collisions per 100,000 Population	Population	Collisions	Collisions per 100,000 Population
2010	284,100	1,739	613	6,724,500	101,576	1,511	308,746,000	5,419,000	1,755
2011	253,565	1,502	592	6,801,100	98,820	1,453	311,592,000	5,338,000	1,713
2012	255,700	1,572	617	6,895,300	99,560	1,444	313,874,000	5,615,000	1,789
2013	253,100	1,693	669	6,971,400	99,689	1,430	316,219,000	5,687,000	1,798
2014	252,050	1,759	698	6,968,200	107,634	1,545	318,857,000	6,064,000	1,901
2015	253,280	1,938	765	7,170,400	117,114	1,633	321,419,000	6,296,000	1,959

Table 2.2.2  
US, State, and Unincorporated King County Fatal Collision and Fatality Rates per 100,000 Population

	Unincorporated King County			Washington State			United States		
Year	Population	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	Fatal Collisions per 100,000 population	Fatalities per 100,000 population
2010	284,100	2.82	2.82	6,724,500	6.28	6.84	308,746,000	10.80	10.65
2011	253,565	3.16	3.16	6,801,100	6.19	6.68	311,592,000	9.55	10.39
2012	255,700	4.69	5.48	6,895,300	5.84	6.35	313,874,000	9.81	10.69
2013	253,100	4.35	4.74	6,971,400	5.81	6.31	316,219,000	9.51	10.35
2014	252,050	4.36	4.76	6,968,200	6.16	6.63	318,857,000	9.41	10.25
2015	253,280	6.71	7.50	7,170,400	6.95	7.92	321,419,000	10.07	10.92

Source: Washington State Department of Transportation and the National Highway Traffic Safety Administration

**Table 2.2.3**  
**US, State, and Unincorporated King County**  
**Collision Rates per Million Vehicle Miles Traveled (VMT)**

	Unincorporated King County			Washington State			United States		
Year	Million VMT	Collisions	Collisions per Million VMT	Million VMT	Collisions	Collisions per Million VMT	Million VMT	Collisions	Collisions per Million VMT
2010	1,416	1,739	1.23	57,190	101,576	1.78	2,985,000	5,419,000	1.82
2011	1,005	1,502	1.49	56,750	98,820	1.74	2,946,000	5,338,000	1.81
2012	1,110	1,572	1.42	56,600	99,560	1.76	2,954,000	5,615,000	1.90
2013	961	1,693	1.76	57,200	99,709	1.74	2,988,000	5,687,000	1.90
2014	977	1,759	1.80	58,060	107,634	1.85	3,026,000	6,064,000	2.00
2015	987	1,938	1.96	59,650	117,114	1.96	3,131,000	6,296,000	2.01

**Table 2.2.4**  
**US, State, and Unincorporated King County Fatal Collision**  
**and Fatality Rates per 100 Million Vehicle Miles Traveled (VMT)**

	Unincorporated King County			Washington State			United States		
Year	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT
2010	14.16	0.56	0.56	572	0.74	0.80	29,850	1.02	1.11
2011	10.05	0.80	0.80	568	0.74	0.80	29,460	1.01	1.10
2012	11.10	1.08	1.08	566	0.71	0.77	29,540	1.04	1.14
2013	9.61	1.14	1.25	572	0.70	0.76	29,880	1.01	1.10
2014	9.77	1.13	1.23	580	0.74	0.80	30,260	0.99	1.08
2015	9.87	1.72	1.93	597	0.83	0.95	31,310	1.03	1.12

Source: Washington State Department of Transportation and the National Highway Traffic Safety Administration

## 2.3 Urban versus Rural Roads - Fatal Collision and Fatality Rates

Table 2.3.1

Urban versus Rural Roads in Unincorporated King County

Urban Roads in Unincorporated King County						Rural Roads in Unincorporated King County				
Year	Population	# of Fatal Collisions	# of Fatalities	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	# of Fatal Collisions	# of Fatalities	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population
2010	160,500	5	5	3.12	3.12	123,600	3	3	2.43	2.43
2011	129,500	4	4	3.09	3.09	124,065	4	4	3.22	3.22
2012	131,400	6	6	4.57	4.57	124,300	6	8	4.83	6.44
2013	129,840	7	8	5.39	6.16	123,260	4	4	3.25	3.25
2014	126,500	7	8	5.53	6.32	125,500	4	4	3.19	3.19
2015	127,500	9	10	7.06	7.84	125,780	8	9	6.36	7.16

Fatal Collision and Fatality Rates per 100,000 Population

Table 2.3.2

Urban versus Rural Roads in Unincorporated King County

Fatal Collision Rates per 100 Million Vehicle Miles Traveled (VMT)

Year	Fatal Collisions			Maintained Road Miles			Annual 100 Million VMT			Fatal Collision Rate per 100 Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2010	5	3	8	968	664	1,632	10.98	3.18	14.16	0.46	0.94	0.56
2011	4	4	8	864	667	1,531	6.86	3.19	10.05	0.58	1.25	0.80
2012	6	6	12	840	664	1,504	7.41	3.69	11.10	0.81	1.63	1.08
2013	7	4	11	861	631	1,492	6.96	2.65	9.61	1.01	1.51	1.14
2014	7	4	11	862	631	1,493	7.18	2.59	9.77	1.00	1.51	1.13
2015	9	8	17	836	632	1,468	7.18	2.69	9.87	1.25	2.97	1.72

**Table 2.3.3**  
**Urban versus Rural Roads in Unincorporated King County**  
**Fatality Rates per 100 Million Vehicle Miles Traveled (VMT)**

	Fatalities			Maintained Road Miles			Annual 100 Million VMT			Fatalities per 100 Million VMT		
Year	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2010	5	3	8	968	664	1,632	10.98	3.18	14.16	0.46	0.94	0.56
2011	4	4	8	864	667	1,531	6.86	3.19	10.05	0.58	1.25	0.80
2012	6	8	14	840	644	1,504	7.41	3.69	11.10	0.81	2.17	1.08
2013	8	4	12	861	631	1,492	6.96	2.65	9.61	1.15	1.50	1.25
2014	8	4	12	862	631	1,493	7.18	2.59	9.77	1.14	1.51	1.14
2015	10	9	19	836	632	1,468	7.18	2.69	9.87	1.39	3.35	1.93

**Table 2.3.4**  
**Urban versus Rural Collision Rates**  
**Per Million Vehicle Miles Traveled (VMT)**

	Number of Collisions			Maintained Road Miles			Annual Million VMT			Collisions per Million VMT		
Year	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2010	1,404	335	1,739	968	664	1,632	1,098	318	1,416	1.28	1.05	1.23
2011	1,136	366	1,502	864	667	1,531	686	319	1,005	1.66	1.15	1.49
2012	1,195	377	1,572	840	644	1,504	741	369	1,110	1.61	1.02	1.42
2013	1,337	356	1,693	861	631	1,492	696	265	961	1.92	1.34	1.76
2014	1,418	341	1,759	862	631	1,493	718	259	977	1.97	1.32	1.80
2015	1,548	390	1,938	836	632	1,468	718	269	987	2.16	1.45	1.96

## 2.4 Collisions by Road Classification

Table 2.4.1  
Collisions by King County Road Classification

Year	Principal Arterial	Minor Arterial	Collector	Local Access	Total
2010	411	447	394	487	1,739
2011	335	443	350	374	1,502
2012	343	459	407	363	1,572
2013	395	504	415	379	1,693
2014	445	505	401	408	1,759
2015	462	626	456	394	1,938

Table 2.4.2  
Collisions by Federal Functional Classification

	Federal Functional Classification									
	Rural				Urban					
	Minor Arterial	Major Collector	Minor Collector	Local Access	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Access	
Year	6	7	8	9	14	16	17	18	19	Total
2010	70	104	87	74	411	377	203	0	413	1,739
2011	84	116	92	74	335	359	142	0	300	1,502
2012	74	129	94	80	343	385	184	0	283	1,572
2013	82	120	103	51	395	422	186	6	328	1,693
2014	65	112	86	78	445	440	186	17	330	1,759
2015	106	124	93	67	461	520	216	23	328	1,938

Note: Prior to 2013, no King County roadways had been classified as Federal Functional Classification 18.

## 3.0 COLLISION TYPES

### 3.1 Collision Type and Severity

Table 3.1.1  
Collisions by Collision Type

Collision Type	2010	2011	2012	2013	2014	2015
Fixed Object	529	453	528	540	514	576
Rear - End	381	321	288	353	362	441
Entering at Angle	265	239	254	235	273	334
Hit Parked Car	154	112	117	138	146	136
Left Turn	110	95	112	118	139	116
Sideswipe	52	53	52	89	95	99
Other	27	38	30	56	59	67
Pedestrian	28	27	30	23	37	33
Vehicle Overturned	61	54	41	49	39	31
Bicycle	23	29	21	23	16	21
Animal	11	14	12	18	12	21
Head On	25	21	27	21	21	20
Right Turn	19	19	18	19	20	17
Other Object	15	6	6	8	3	13
Leaving Parked Position	10	6	5	0	14	11
Non Collision	3	0	1	3	8	2
Backing	17	5	10	0	1	0
Entering Driveway	0	1	1	0	0	0
U-Turn	9	9	19	0	0	0
<b>Totals</b>	<b>1,739</b>	<b>1,502</b>	<b>1,572</b>	<b>1,693</b>	<b>1,759</b>	<b>1,938</b>

Table 3.1.2  
Fatal Collisions by Collision Type

Collision Type	2010	2011	2012	2013	2014	2015
Fixed object	2	4	4	8	0	7
Pedestrian	1	1	1	1	3	3
Other	0	0	0	0	2	2
Entering at angle	0	0	4	0	1	2
Head on	1	1	2	0	2	1
Rear - end	1	0	0	0	1	1
Sideswipe	0	0	0	1	0	1
Vehicle overturned	0	2	0	0	2	0
Animal	0	0	0	0	0	0
Bicycle	1	0	1	1	0	0
Left turn	2	0	0	0	0	0
<b>Totals</b>	<b>8</b>	<b>8</b>	<b>12</b>	<b>11</b>	<b>11</b>	<b>17</b>

**Table 3.1.3**  
**2015 Collisions by Collision Type and Severity**

Collision Type	PDO	Injury	Fatal	Total	Percentage
Fixed object	414	155	7	576	29.7%
Rear - end	288	152	1	441	22.8%
Entering at angle	219	113	2	334	17.2%
Left turn	70	46	0	116	6.0%
Hit Parked Car	123	13	0	136	7.0%
Other	46	19	2	67	3.5%
Sideswipe	75	23	1	99	5.1%
Vehicle overturned	16	15	0	31	1.6%
Pedestrian	1	29	3	33	1.7%
Head on	8	11	1	20	1.0%
Bicycle	3	18	0	21	1.1%
Right Turn	13	4	0	17	0.9%
Animal	15	6	0	21	1.1%
Backing	0	0	0	0	0.0%
Leaving Parked Position	8	3	0	11	0.6%
Non-Collision	0	2	0	2	0.1%
Other Object	10	3	0	13	0.7%
<b>Total</b>	<b>1,309</b>	<b>612</b>	<b>17</b>	<b>1,938</b>	<b>100.0%</b>

Table 3.1.4  
2015 Fixed Object Collisions  
By First Object Struck and Severity

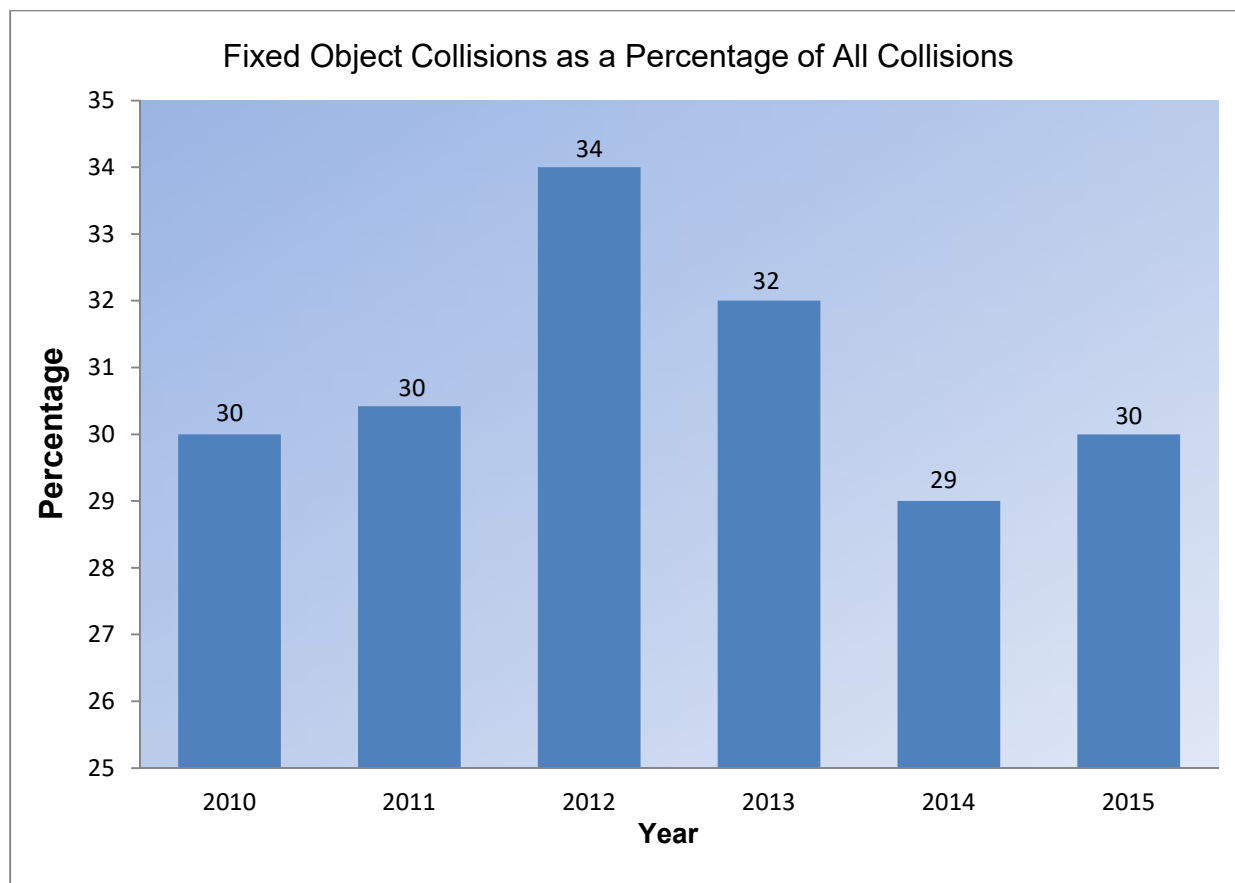
OBJECT STRUCK	PDO	Injury	Fatality	Total	% of Total
Boulder (stationary)	5	1	0	6	1.0%
Bridge Abutment	1	0	0	1	0.2%
Bridge Rail - Face	3	0	0	3	0.5%
Building	3	3	0	6	1.0%
Concrete Barrier/Jersey Barrier - Face	7	1	1	9	1.6%
Crash Cushions - Impact Attenuators	0	1	0	1	0.2%
Culvert and/or other Appurtenance in Ditch	11	5	0	16	2.8%
Drawbridge Crossing Gate Arm	1	0	0	1	0.2%
Earth Bank or Ledge	26	8	0	34	5.9%
Fence	56	18	1	75	13.0%
Fire Hydrant	10	0	0	10	1.7%
Guardrail - Face	22	6	0	28	4.9%
Guardrail - Leading End	7	1	0	8	1.4%
Guardrail - Through, Over or Under	2	1	0	3	0.5%
Guide Post	0	1	0	1	0.2%
Into River, Lake, Swamp, etc.	4	1	0	5	0.9%
Linear Curb	13	2	0	15	2.6%
Mailbox	25	3	0	28	4.9%
Metal Sign Post	12	3	0	15	2.6%
Other Objects	1	0	0	1	0.2%
Over Embankment - No Guardrail Present	4	4	0	8	1.4%
Retaining Wall (concrete, rock, brick, etc.)	6	4	0	10	1.7%
Roadway Ditch	68	30	0	98	17.0%
Rock Bank or Ledge	1	1	0	2	0.3%
Signal Pole	1	0	0	1	0.2%
Street Light Pole or Base	4	4	0	8	1.4%
Tree or Stump (stationary)	33	33	2	68	11.8%
Underside of Bridge	1	0	0	1	0.2%
Utility Pole or Box	57	20	3	80	13.9%
Wood Sign Post	30	4	0	34	5.9%
<b>Total</b>	<b>414</b>	<b>155</b>	<b>7</b>	<b>576</b>	<b>100.0%</b>

### 3.2 Fixed Object Collisions

Table 3.2.1  
Collision Rate per Million Vehicle Miles Traveled (VMT) for  
Collisions Involving Fixed Objects

Year	Total Number of Fixed Object Collisions			Maintained Road Miles			Annual Million VMT			Collision Rate for Fixed Object Collisions per Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2010	396	167	563	968	664	1,632	1,098	318	1,416	0.36	0.53	0.40
2011	273	194	467	864	667	1,531	686	319	1,005	0.40	0.61	0.47
2012	345	197	542	840	664	1,504	741	369	1,110	0.47	0.53	0.49
2013	356	184	540	861	631	1,492	696	265	961	0.51	0.69	0.56
2014	331	183	514	862	631	1,493	718	259	977	0.47	0.70	0.53
2015	366	210	576	836	632	1,468	718	269	987	0.51	0.78	0.58

Figure 3.2.1  
Collisions Involving Fixed Objects as a  
Percentage of All Collisions



### 3.3 Pedestrian Involved Collisions

Table 3.3.1  
Pedestrian Involved Collisions by Severity

Year	Property Damage Only	Injury	Fatality	Total
2010	0	27	1	28
2011	0	26	1	27
2012	1	28	1	30
2013	0	22	1	23
2014	4	30	3	37
2015	1	29	3	33

Table 3.3.2  
2015 Pedestrian Involved Collisions by  
Facility Used and Severity

Facility	Property Damage Only	Injury	Fatality	Total
In Roadway	0	8	2	10
Marked X walk	1	8	1	10
Shoulder	0	5	0	5
Other	0	3	0	3
Sidewalk	0	3	0	3
Unmarked X walk	0	2	0	2
<b>Total</b>	<b>1</b>	<b>29</b>	<b>3</b>	<b>33</b>

Table 3.3.3  
Pedestrian Involved Collisions  
By First Contributing Circumstance

Contributing Circumstance	2010	2011	2012	2013	2014	2015
Disregard Flagger - Officer	0	0	0	0	1	1
Fail to Yield Row to Pedestrian	12	13	10	3	9	8
None	9	9	13	7	11	5
Other	6	1	2	8	5	6
Over Centerline	0	0	0	0	1	0
Exceeding Reasonable Safe Speed	0	1	0	1	0	2
Inattention	0	1	1	3	4	4
Operating Defective Equipment	0	1	1	0	1	0
Disregard Stop and Go Light	0	1	0	0	0	0
Driver Distractions Outside Vehicle	0	0	0	0	0	0
Driver Not Distracted	0	0	0	0	2	1
Driver Operating Handheld Telecommunication	0	0	1	0	0	0
Under Influence of Drugs	0	0	0	0	0	0
Exceeding Stated Speed Limit	1	0	0	0	0	1
Improper Turn	0	0	2	1	1	1
Unknown Driver Distraction	0	0	0	0	1	3
Under Influence of Alcohol	0	0	0	0	1	1
<b>Total</b>	<b>28</b>	<b>27</b>	<b>30</b>	<b>23</b>	<b>37</b>	<b>33</b>

**Table 3.3.4**  
**Age of Pedestrians Involved in Collisions**

Age Range	2010	2011	2012	2013	2014	2015
Unknown	2	0	2	0	2	1
0-5	1	1	3	2	0	1
6-10	2	2	2	2	0	1
11-15	3	6	0	2	5	5
16-20	5	3	7	3	4	7
21-25	2	2	2	2	6	1
26-30	3	1	1	3	2	4
31-35	0	1	2	0	2	1
36-40	2	2	1	1	2	1
41-45	2	2	3	1	2	0
46-50	1	0	2	1	2	1
51-55	0	1	2	1	2	3
56-60	1	4	1	4	1	2
61-65	1	0	1	1	2	3
66-70	0	0	0	0	0	0
71-75	2	0	0	0	0	0
76-80	1	2	0	0	1	1
81-85	0	0	0	0	1	1
86+	0	0	1	0	2	0
<b>Total</b>	<b>28</b>	<b>27</b>	<b>30</b>	<b>23</b>	<b>37</b>	<b>33</b>

**Table 3.3.5**  
**Gender of Pedestrians Involved in Collisions**

Year	Unknown	Female	Male	Total
2010	0	10	18	28
2011	0	14	13	27
2012	0	16	14	30
2013	0	8	15	23
2014	1	14	22	37
2015	1	14	18	33

### 3.4 Bicycle Involved Collisions

Table 3.4.1  
Bicycle Involved Collisions by Severity

Year	Property Damage Only	Injury	Fatality	Total
2010	0	22	1	23
2011	0	29	0	29
2012	2	18	1	21
2013	3	19	1	23
2014	1	15	0	16
2015	3	18	0	21

Table 3.4.2  
2015 Bicycle Involved Collisions by First Contributing Circumstance and Severity

First Contributing Circumstance	Property Damage Only	Injury	Fatality	Total
None	1	6	0	7
Inattention/Unknown Driver Distraction	1	3	0	4
Fail to Yield ROW to Pedestrian	0	4	0	4
Other	1	1	0	2
Under Influence of Alcohol	0	1	0	1
Operating Defective Equipment	0	1	0	1
Driver Interacting with Passengers, Animals	0	1	0	1
Following Too Closely	0	1	0	1
<b>Total</b>	<b>3</b>	<b>18</b>	<b>0</b>	<b>21</b>

### 3.5 Motorcycle Involved Collisions

Table 3.5.1  
Motorcycle Involved Collisions  
By Severity

Year	Property Damage Only	Injury	Fatality	Total
2010	11	41	2	54
2011	4	32	2	38
2012	7	37	6	50
2013	5	38	2	45
2014	5	37	2	44
2015	13	40	4	57

Table 3.5.2  
2015 Motorcycle Involved Collisions  
By First Contributing Circumstance

First Contributing Circumstance	PDO	Injury	Fatality	Total
Inattention / Driver Distraction	4	14	0	18
Exceeding Stated Speed Limit Exceeding Reasonable Safe Speed	4	10	2	16
Other	2	5	2	9
None	1	3	0	4
Under the Influence of Drugs or Alcohol	0	3	0	3
Following Too Closely	0	2	0	2
Improper Passing / Improper U-Turn	0	2	0	2
Did Not Grant R/W to Vehicle (motorcycle at fault)	0	1	0	1
Did Not Grant R/W to Vehicle (motorcycle <i>not</i> at fault)	1	0	0	1
Disregard Yield/Flashing Yellow	1	0	0	1
<b>Total</b>	<b>13</b>	<b>40</b>	<b>4</b>	<b>57</b>

## 4.0 OTHER COLLISION INFORMATION

### 4.1 Estimated Economic Costs

Table 4.1.1  
Estimated Economic Costs of Collision Activity

Severity	2015 Collisions	Estimated Economic Costs
Property Damage Only	1,309	\$14,922,600
Injury	612	\$55,080,000
Fatal	17	\$26,214,000
Total	1,938	\$96,216,600

***The following estimated costs per collision are used in this calculation:***

*Property Damage Only (no injury observed)-\$11,400; Injury-\$90,000; Fatality-\$1,542,000  
(National Safety Council, 2015)*

## 4.2 Month, Day of Week, and Time of Day

Figure 4.2.1  
2015 Collisions by Month

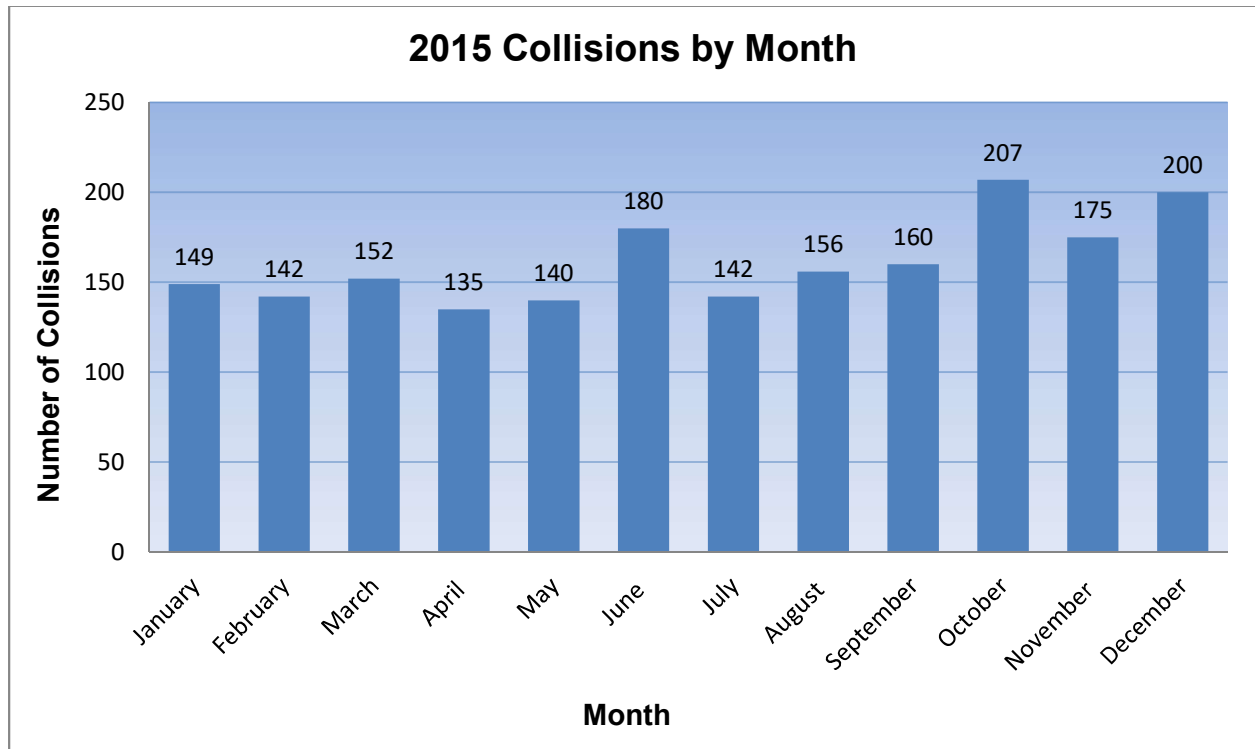


Figure 4.2.2  
2015 Collisions by Day of Week

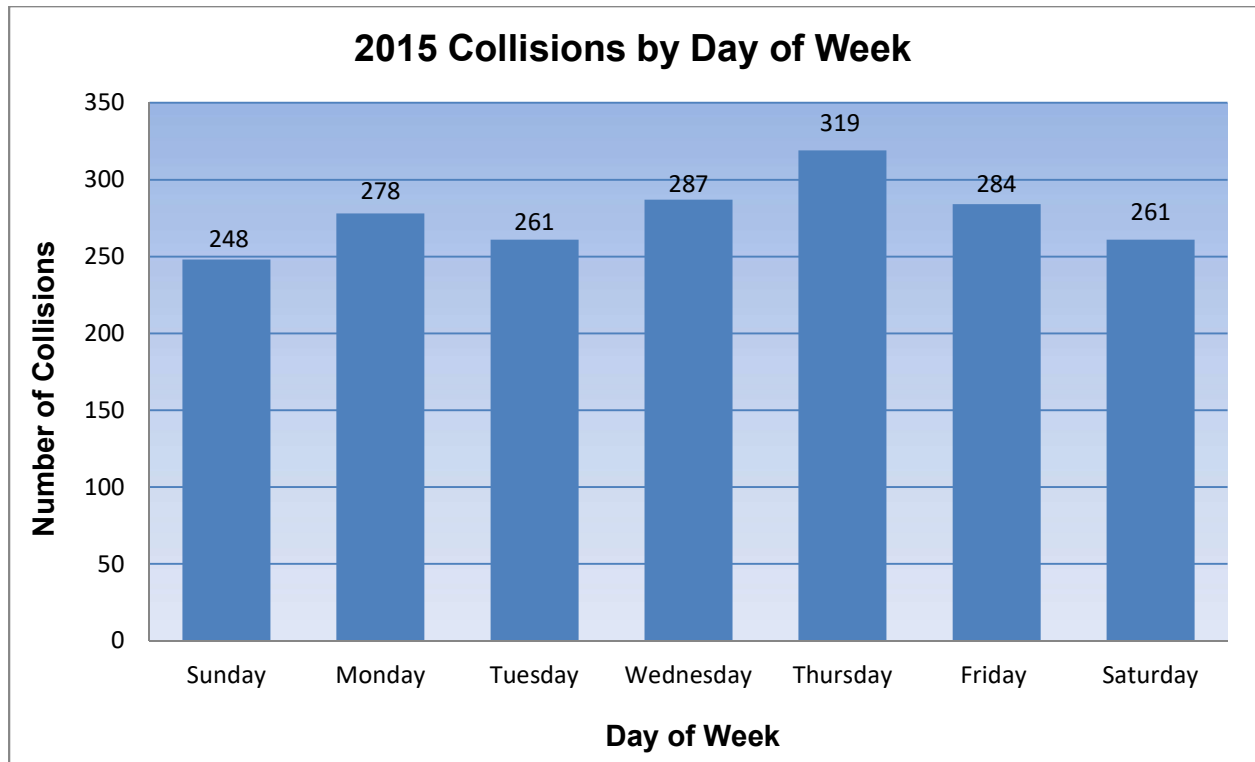


Figure 4.2.3  
2015 Weekday Collisions  
By Time of Day

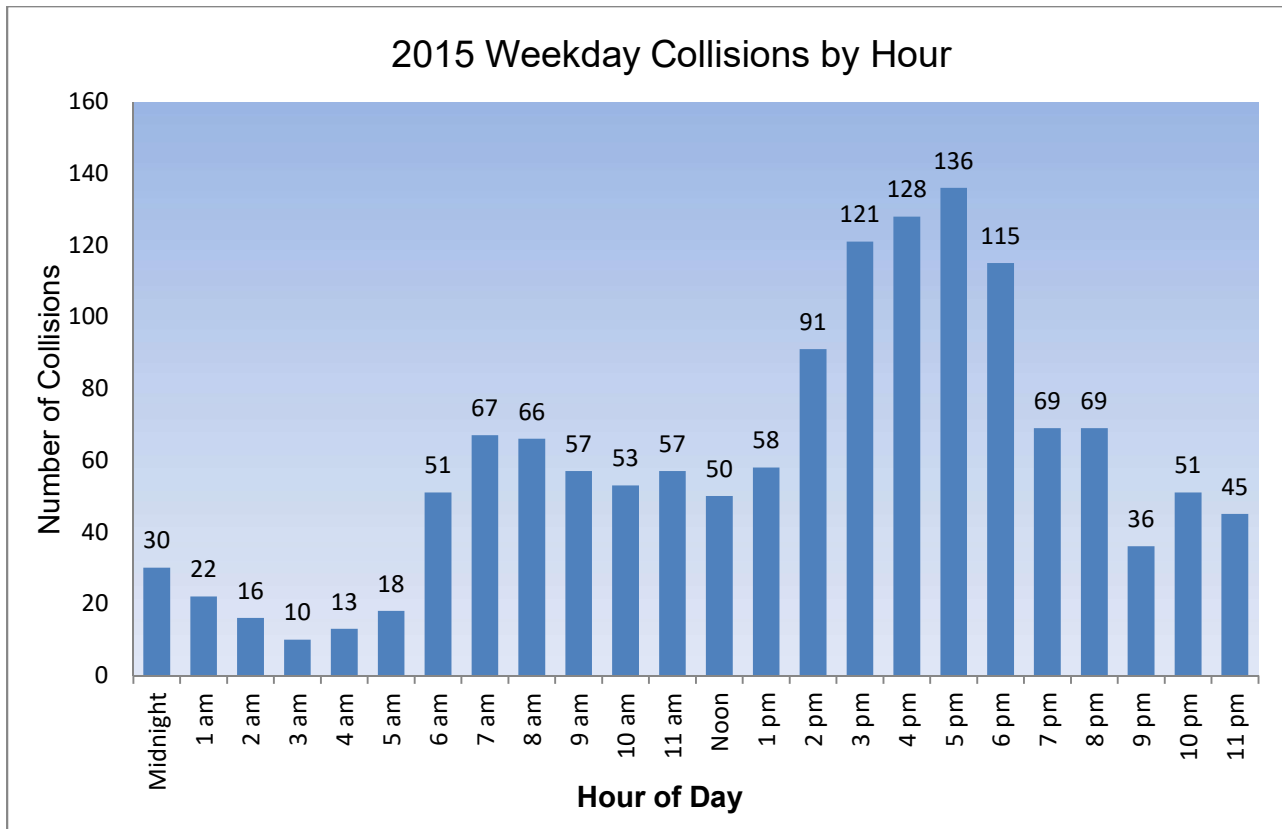
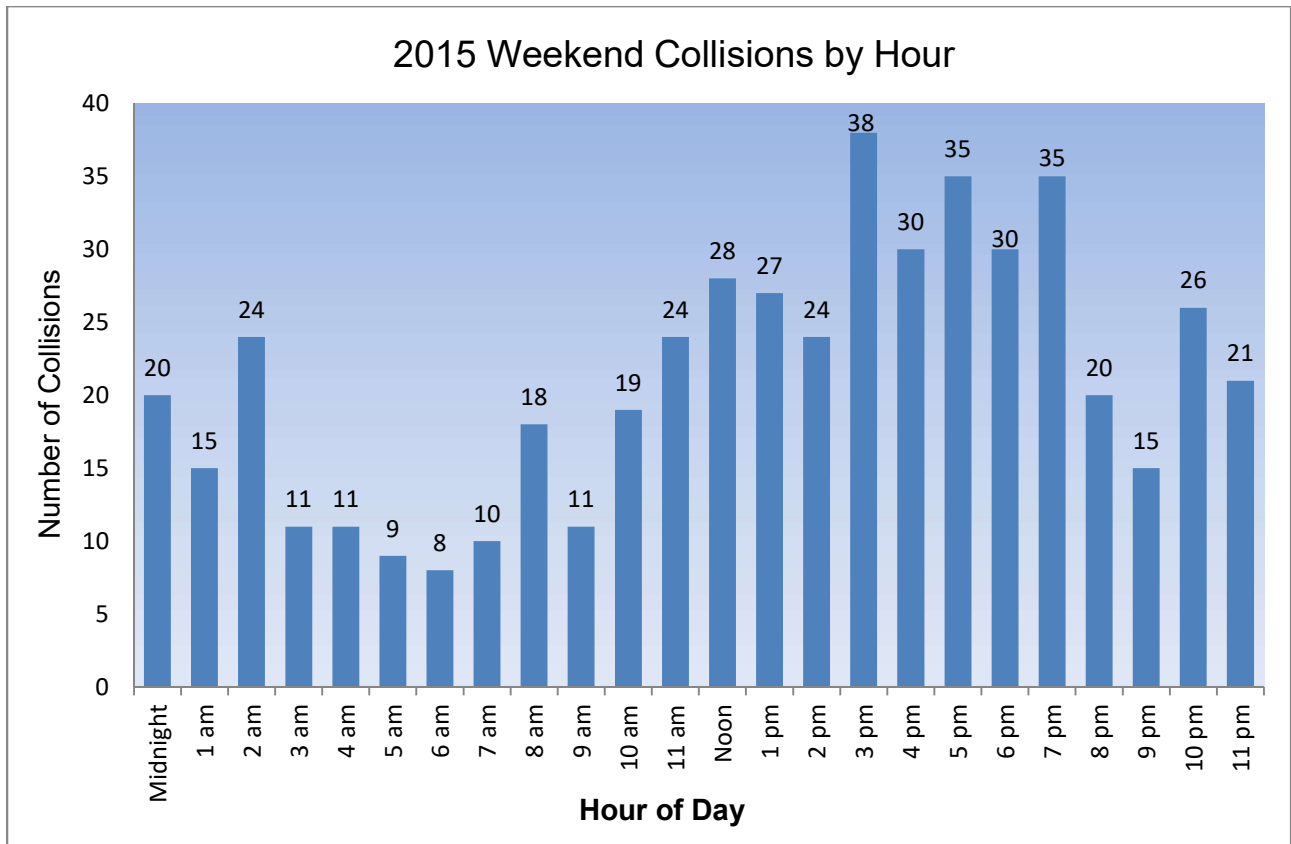
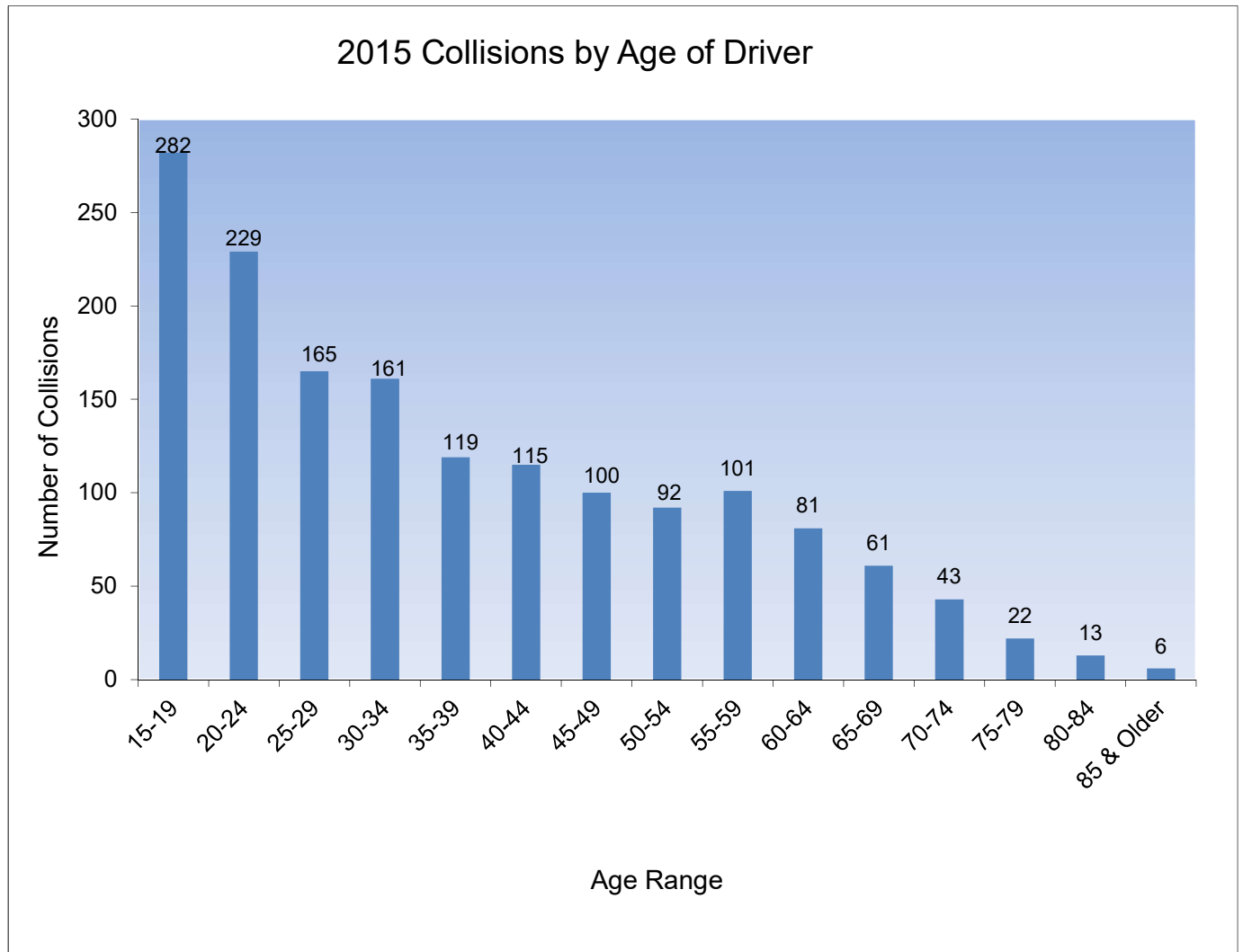


Figure 4.2.4  
2015 Weekend Collisions  
By Time of Day



## 4.4 Demographics

Figure 4.4.1  
2015 Collisions by Age of Driver



Note: 348 collision reports did not disclose driver age information

## 4.5 Contributing Circumstances

Table 4.5.1  
First Contributing Circumstance  
For Drivers between ages 15 to 25 for 2015

1st Contributing Circumstance	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22	Age 23	Age 24	Age 25	Total
Inattention/Driver Distraction	1	14	25	26	13	7	15	8	10	11	7	137
Excessive Speed	4	11	15	17	12	15	6	5	10	8	4	107
Did Not Grant ROW to Vehicle	0	10	8	7	3	3	4	8	1	4	3	51
None	0	5	6	9	7	4	2	1	4	4	5	47
Follow Too Closely	0	2	10	7	3	3	3	6	6	3	2	45
Other	2	2	5	3	7	1	2	3	1	3	2	31
Apparently Asleep/Fatigued	0	2	6	2	3	4	5	2	3	1	1	29
Under Influence of Alcohol/Drugs	0	0	0	1	2	1	5	5	7	3	1	25
Disregard Stop/Go Light/Flashing Red/Flashing Yellow/Yield Sign	0	2	2	1	1	0	1	2	0	4	0	13
Improper Turn	0	0	1	4	1	2		1	0	1	2	12
Driver Not Distracted	0	2	3	0	1	1	0	0	2	0	1	10
Operating Defective Equipment	1	1	1	2	0	1	1	0	1	2	0	10
Improper U-Turn	0	0	0	3	1	1	2	0	2	0	0	9
Over Center Line	0	1	1	0	1	0	1	0	0	2	2	8
Improper Backing	0	0	0	1	0	0	0	1	0	0	1	3
Improper Passing	0	0	1	0	0	0	0	0	0	2	0	3
Fail to Yield Row to Pedestrian	0	0	0	0	0	0	2	0	0	0	1	1
<b>Totals</b>	<b>8</b>	<b>52</b>	<b>84</b>	<b>83</b>	<b>55</b>	<b>43</b>	<b>49</b>	<b>42</b>	<b>47</b>	<b>48</b>	<b>32</b>	<b>543</b>

Table 4.5.2  
2015 Collisions by First Contributing Circumstance

First Contributing Circumstance	Fatality	Injury	PDO	Total
Inattention / Driver Distraction	1	157	334	492
Other	4	54	206	264
Excessive Speed	4	84	160	248
Did Not Grant ROW to Vehicle		57	122	179
None	1	46	122	169
Follow Too Closely		43	88	131
Under Influence of Alcohol/Drugs	2	43	52	97
Apparently Asleep/Fatigued/Ill	1	27	41	69
Disregard Stop/Go Light/Stop Sign - Flashing Red/Yield Sign - Flashing Yellow/Flagger - Officer	1	28	35	64
Improper Turn		13	32	45
Over Center Line	2	8	24	34
Driver Not Distracted		12	21	33
Operating Defective Equipment		14	12	26
Improper Backing		2	18	20
Not Stated	1	1	16	18
Improper Passing		5	10	15
Improper U-Turn		4	9	13
Fail to Yield Row to Pedestrian		11	1	12
On Wrong Side Of Road		3	6	9
<b>Total</b>	<b>17</b>	<b>612</b>	<b>1,309</b>	<b>1,938</b>

## 4.6 Impairment

Table 4.6.1  
Collisions Involving  
Drivers under the Influence (DUI)

Year	Fatal	% of all Fatalities	Injury	% of All Injury	Property Damage Only	% of all PDO	Total DUI Collisions	% of all Collisions
2010	2	25.0%	76	12.7%	95	8.4%	173	9.9%
2011	3	37.5%	76	14.1%	68	7.1%	147	9.8%
2012	8	66.7%	71	13.1%	77	7.6%	156	9.9%
2013	2	16.7%	65	11.5%	81	7.2%	148	8.7%
2014	3	27.3%	62	11.0%	82	6.9%	148	8.4%
2015	4	23.5%	63	10.0%	72	5.5%	139	7.1%

Figure 4.6.2  
2015 Weekend Collisions for  
Drivers under the Influence  
By Time of Day

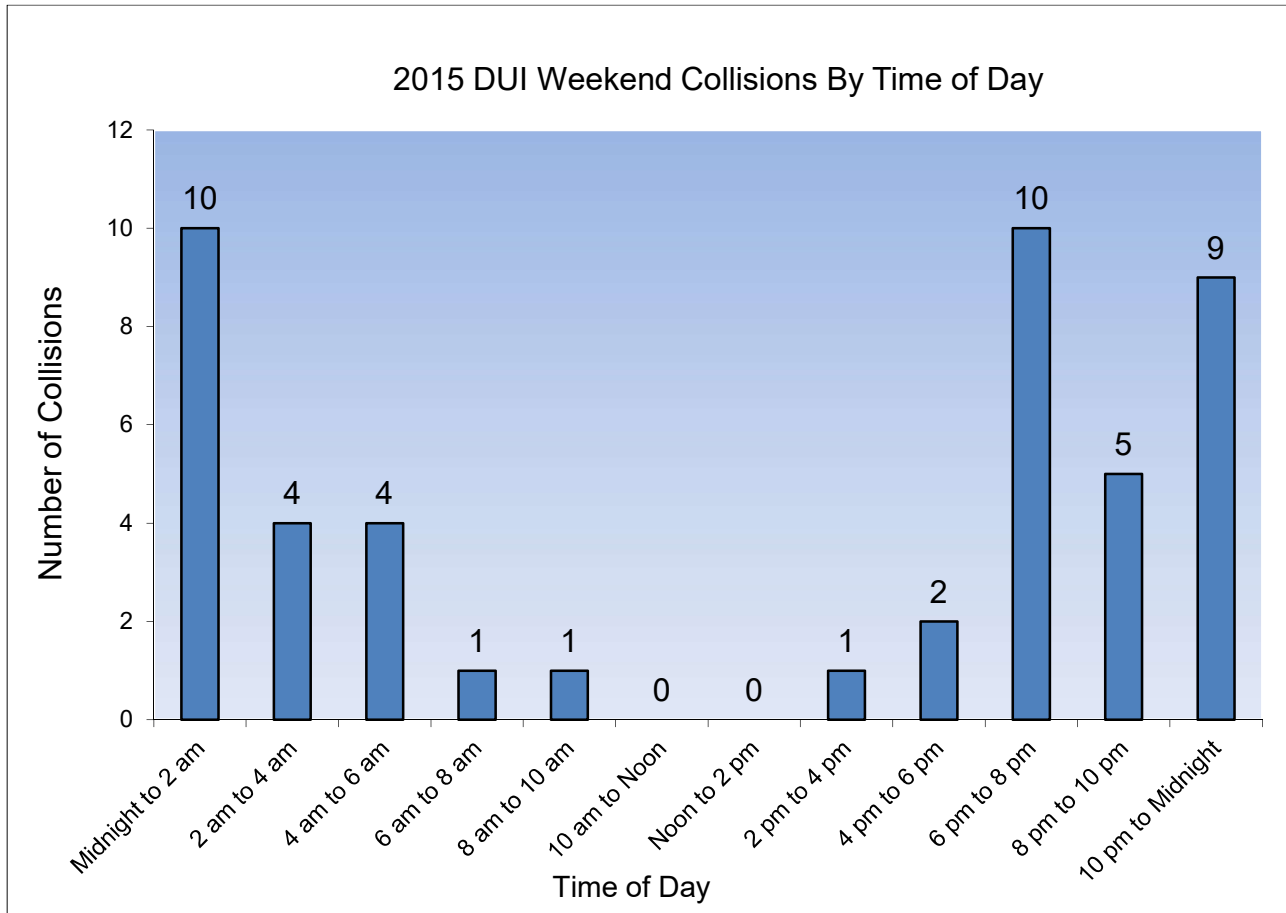
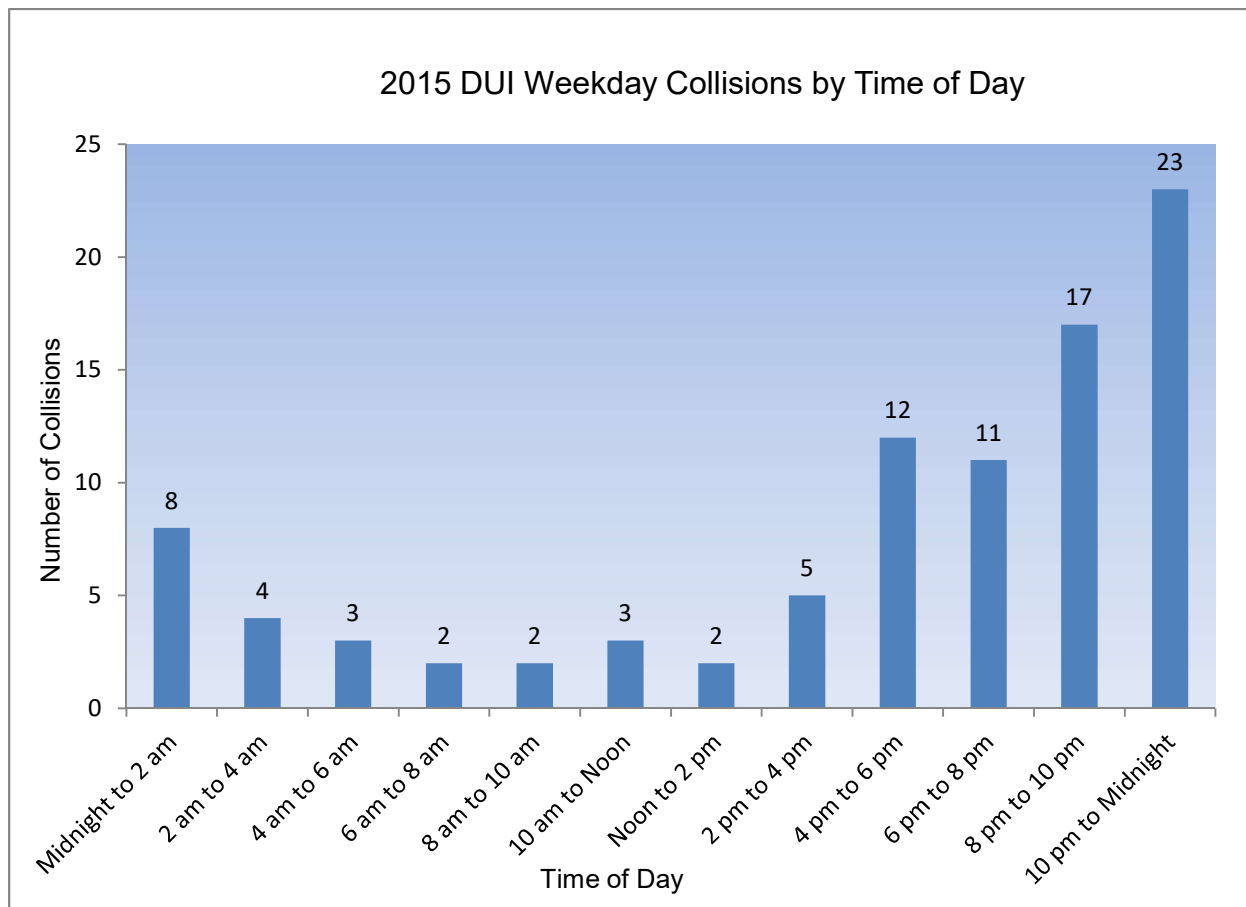


Figure 4.6.3  
2015 Weekday Collisions for  
Drivers under the Influence  
By Time of Day



## 4.7 Speed

Table 4.7.1  
Collisions Involving Speeding as First Contributing Circumstance

Year	Fatal	% of all Fatal Collisions	Injury	% of all Injury Collisions	PDO	% of all Property Damage Only Collisions	Total	% of all Collisions
2010	2	25%	167	28%	303	27%	472	27%
2011	5	62%	127	24%	221	23%	353	24%
2012	4	33%	120	22%	201	20%	325	20%
2013	4	36%	86	15%	152	14%	242	14%
2014	2	18%	85	15%	130	11%	217	12%
2015	4	24%	84	14%	160	12%	248	13%

## 4.8 Lighting Conditions

Table 4.8.1  
2015 Collisions By  
Lighting Condition

Lighting Condition	Property Damage Only	Injury	Fatal	Total
Dark-No Street Lights	190	78	6	274
Dark-Street Lights Off	19	5	0	24
Dark-Street Lights On	248	113	5	366
Dawn	27	13	0	40
Daylight	746	376	5	1127
Dusk	42	24	1	67
Not Stated	37	3	0	40
Totals	1,309	612	17	1,938

## APPENDIXES

### **Appendix A – Data Sources**

#### **Collision Data**

Collision information is from the Washington State Department of Transportation's (WSDOT) Crash Data and Reporting Branch of the Transportation Data, GIS & Modeling Office (TDGMO). The Crash Data and Reporting Branch is responsible for updating and maintaining all electronic collision records in Washington State. Vehicular collisions which sustain more than \$1000 in property damage, or involve an injury or a death, are required to be reported to the Washington State Patrol by a Police Traffic Collision Report. The Washington State Patrol provides hard copies of the Police Traffic Collision Report to WSDOT, where they are converted into an electronic format.

Injuries are classified based on conditions present at the time of the collision except in the case of fatalities. An injury resulting in a death, within 30 days of the collision, is classified as a fatal injury.

#### **Population Data and King County Land Area**

King County's population figure is from the Washington State Office of Financial Management. King County's land area figure is from King County's Office of Policy and Regional Planning.

#### **King County Maintained Roadway Figures**

King County's maintained roadway mile figures are from King County Road Services Strategic Business and Operations Section (SBOS).

#### **Traffic Count Data**

The traffic count information used in this report was provided by King County's Road and Traffic Engineering Unit.

#### **Estimated Cost of Collisions**

The economic costs of collisions values used in this report are from the National Safety Council.

## **Appendix B - Formulas used in Report**

### **Collision Rate per Million Vehicle Miles Traveled**

$R = (\text{Collisions} * 10^6) / (\text{AADT} * 365 * L)$ , where

Rate = Accident rate for collisions per million vehicle mile (acc/mvm)

Collisions= Total number of collisions in one year period

AADT = Annual Average Daily Traffic volume, and

L = Length of study section in miles

### **Collision Rate per 100,000 Population**

Rate = Collisions\*100,000/Unincorporated Population

Collisions = Total number of collisions in a one year period

### **Economic Cost of Collisions**

The economic cost of collisions was calculated as follows:

Cost = \$9,300\*PDO + \$80,700\*I + \$1,500,000\*F, where

PDO – Total Number of Property Damage Collisions (\$9, 300/collision)

I – Total Number of Injury Collisions (\$80,700/collision)

F – Total Number of Fatal Collisions (\$1,500,000/collision)